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“Step Out From the Old to the New”

IS 14413 (1996): Automotive vehicles - Telltale symbols and controls on two wheeled and three wheeled vehicles (superseding IS 9655, IS 9774, IS 10043 and IS 10479) [TED 6: Automotive Body, Chassis, Accessories and Garage Equipments]



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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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REAFFIRMED

IS 14413 : 1996

(Superseding IS 9655 : 1984, IS 9714 : 1983,
IS 10043 : 1994 and IS 10479 : 1993)

भारतीय मानक
स्वचल वाहन — दो पहिये और तिपहिये
वाहनों के लिए शिशा-सूचक और नियंत्रण प्रणालियाँ

Indian Standard
**AUTOMOTIVE VEHICLES — TELLTALE SYMBOLS
AND CONTROLS ON TWO-WHEELED AND THREE-
WHEELED VEHICLES**

ICS 43.040.30; 43.140

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

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Price Group 3

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Automotive Basic Standards Sectional Committee had been approved by the Transport Engineering Division Council.

This standard has been prepared to consolidate the requirements relating to telltale symbols, displays and controls on two and three wheeled vehicles. This standard supersedes the following Indian Standards:

<i>IS No.</i>	<i>Title</i>
9655 : 1994	Automotive vehicles — Type, location and function of controls — Mopeds (<i>first revision</i>)
9714 : 1993	Symbols for controls, indicator and telltale for mopeds (<i>first revision</i>)
10043 : 1994	Symbols for controls, indicator and telltales for scooters and motorcycles (<i>first revision</i>)
10479 : 1993	Automotive vehicles — Operator controls and displays on scooters and motorcycles — Recommendation (<i>first revision</i>)

In preparing this standard, assistance has been derived from the following standards:

SS 11	Controls, telltales and indicators for vehicles, prepared by Automotive Research Association of India, Pune; and
SS 12	Controls, telltales and indicators for vehicles, prepared by Automotive Research Association of India, Pune.

The committee responsible for preparation of this standard is given in Annex A.

**AMENDMENT NO. 1 DECEMBER 2007
TO
IS 14413 : 1996 AUTOMOTIVE VEHICLES —
TELLTALE SYMBOLS AND CONTROLS ON
TWO-WHEELED AND THREE-WHEELED
VEHICLES**

(Page 5, Table 1, Note 1) — Substitute following for the existing:

‘For the speedometer, km/h increases in the clockwise direction. Major graduations and numerals shall be at intervals of 10 or 20 km/h and minor graduations at intervals of 1, 2, 5 or 10 km/h.’

(TED 6)

Reprography Unit, BIS, New Delhi, India

Indian Standard

AUTOMOTIVE VEHICLES — TELLTALE SYMBOLS AND CONTROLS ON TWO-WHEELED AND THREE- WHEELED VEHICLES

1 SCOPE

1.1 This standard lays down the general requirements of the telltale symbols and controls for two wheelers and three wheelers.

2 DEFINITIONS

For the purpose of this standard, the following definitions shall apply.

2.1 Control

Device operated by the driver's hand or foot to obtain functions for which the different mechanism of the vehicles are designed (accelerator, brake, etc).

2.2 Handlebars

Any part of the bar or bars connected to the fork top by means of which the vehicle is steered.

2.3 Handgrip

Part of the handlebars, farthest from the centre, by which the driver holds the handlebars.

2.4 Frame

Any part of the frame, chassis or cradle of the vehicle to which the engine and/or transmission unit and/or the engine and transmission unit itself are attached.

2.5 Lever

Device consisting of an arm turning on a fulcrum, by means of which some functional mechanism of the vehicle is operated.

2.5.1 Hand Lever

Lever operated by the hand of the driver.

NOTE — In the case of levers mounted on handlebar, unless otherwise stated, hand lever is operated by compression (that is, moving the apex of the lever towards the supporting structure), for example, for braking or declutching.

2.5.2 Foot Lever

Lever operated by contact between the driver's foot and a spur projected from the lever arm.

2.5.3 Pedal

Lever operated by contact between the driver's foot and pad on the lever, so placed as to allow pressure to be applied to the lever arm.

NOTE — Unless otherwise stated a pedal is operated by depression, for examples, for braking.

2.5.4 Rocker Arm

Lever, pivoted at or near its centre and having a pad or spur at each end, operated by contact between the driver's foot and the pads or spurs.

2.6 Footrest

Projection on either side of the vehicle on which the driver places his feet when seated in the driving position.

2.7 Platform

Part of the vehicle, on which the driver places his feet when seated in the driving position.

2.8 Combined Brake

System of operation whereby both the front and the rear brakes of the vehicle are brought into operation, at least partially, by the use of only one control.

2.9 Indicator

Device which presents information on the functioning or situation of a system or part of a system.

2.10 Telltale

Optical signal which indicates the actuation of a device, its correct or defective functioning or condition, or its failure to function.

2.11 Symbol

Diagram from which to identify a control, indicator or telltale.

2.12 Right Side/Left Side

The right and left side designations in the following paragraphs pertain to orientation of the vehicles with respect to the rider when seated normally on the rider's seat.

2.13 Service Brake Control

The control which actuates the brakes which operate on at least two wheels in the same axis.

2.14 Clockwise and Counter-Clockwise

“Clockwise” and “Counter-Clockwise” mean opposing directions of rotation around following axis, as applicable:

- a) The operational axis of the ignition control, viewed from the front of the ignition lock opening;
- b) The axis of the right hand-lever on which the twist grip throttle is located, viewed from that end of the handlebar;
- c) The axis perpendicular to the centre of the speedometer, viewed from the operator's normal eye position; and
- d) The axis perpendicular to the centre of the left handle, viewed from the rider's left side position.

3 GENERAL REQUIREMENTS, CONTROLS

The following controls when fitted on the vehicle, shall comply with the following requirements.

3.1 Throttle Control

3.1.1 Hand Operated

The throttle shall be hand operated and located on the right side of the handlebar. When rotated around its axis in a counter-clockwise direction, as viewed from the right end of the bar, the engine speed shall increase. Hand operated control may be self return type.

3.1.2 Foot Operated

Shall be operated by right foot, the engine speed shall increase when the pedal is depressed.

3.2 Brake Control

3.2.1 Front Wheel Brake Control (for Vehicles with Handle Bar)

The front wheel brake control lever shall be located on the right side of the handlebar and so arranged that the control lever may be actuated without completely removing the hand from the throttle control. This requirement applies only when the front wheel brake is controlled independently from the rear brake control.

3.2.2 Rear Brake Control

The rear brake control shall be operated by the right

foot and so located that is convenient to the operator when the foot is normally positioned on the foot rest or foot board. In the case of two wheelers, without a manual clutch operation, the rear brake control may alternatively be located on the left side of handlebar, and so arranged that it is convenient to operate without removing the hand from the normal position.

3.2.3 Combined Brake

Combined brake control shall be as that prescribed for the rear brake control.

3.3 Clutch Control

3.3.1 Hand Operated

The control shall be operated by the left hand of the operator. The control shall be so located that it is convenient to operate without removing the hand from the normal position.

3.3.2 Foot Operated

Shall be operated by the driver's foot.

3.4 Manual Transmission — Gear Change Control

3.4.1 In Case of Vehicles with Handle Bar

The transmission gear change control shall be operated with either the left foot or the left hand. Each change position, except neutral, shall have a positive relaxation action. If three or more gears are provided, it shall not be possible to shift from the highest gear to the lowest gear or *vice-versa*. In case of hand operated control mounted on the handlebar, an anti-clockwise motion of operator's hand and in case of foot operated control, clockwise or anti-clockwise motion of operator's toe shall shift the transmission towards lower numerical gear ratio (commonly referred to as lower gears) that is, from first to second, second to third and third to fourth, etc, and in opposite direction towards higher numerical gear ratios (commonly referred to as lower gears) that is, from fourth to third gear, third to second gear and second to first gear, etc.

3.4.2 In case of Vehicles with Steering Wheel

The manual transmission gear change control shall be operated by the left hand of the driver.

3.5 Control of Horn, Headlight, Upper Beam/Lower Beam and Turn Signal Switch

3.5.1 These controls shall be so located that they can be conveniently operated in the normal sitting position of the operator. In the case of vehicles with handlebar,

they shall be operated without complete removal of operator's hand from handlebar.

3.6 Ignition Cut-off (in case of vehicles with SI Engines)

3.6.1 The ignition cut-off shall be located such that it is easily accessible. The cut-off shall be achieved by push type switch or by counter-clockwise rotation.

3.7 Fuel Shut Off Control (in case of vehicles with SI engines)

3.7.1 Fuel shut off may be automatic or manual.

3.7.2 If manual, the control shall be located that it is easy for operation.

3.8 Turn Signal Switch

In the case of vehicles with handlebars, it shall be located on the handle bars (left or right) and for operation-either turn or slide.

3.9 Control Location and Operation

Each control located on the right side of handlebar shall be operable by the operator's right hand throughout its full range without removal of the operator's right hand from the throttle. Each control located on the left side of the handlebar shall be operable by the operator's left hand throughout its full range without removal of the operator's left hand from the handle grip.

4 MANDATORY REQUIREMENTS

4.1 Two Wheelers

a) Hand Operated

- 1) Throttle Control;
- 2) Front wheel brake control, when the frontwheel brake is controlled independently from the rear brake;
- 3) Clutch control, if the clutch operation is not automatic;
- 4) Control for horn, headlight upper beam/ lower beam and turn;
- 5) Ignition cut-off for SI engines; and
- 6) Fuel shut off control, if not automatic, for SI engines.

b) Foot Operated or Hand Operated

- 1) Gear shifting control if transmission is not automatic; and
- 2) Rear brake or combined brake control.

4.2 Three Wheelers

a) Hand Operated

- 1) Steering control (Steering wheel or handlebar);
- 2) Horn;
- 3) Head lamp switch, tail lamp switch are rear registration mark illuminating lamp switch;
- 4) Turn signal lamp switch;
- 5) Manual transmission shift lever, if the transmission is not automatic;
- 6) Wind shield wiper (power operated or manual as applicable); and
- 7) Ignition cut-off (in use of SI engine).

NOTE — Tail lamp, rear registration mark illuminating lamp and parking lamp/front position lamp shall be combined as a single unit for control purposes. The combination of other controls is optional.

b) Foot Operated

- 1) Service brake control;
- 2) Accelerator control (in the case of vehicles with steering wheel); and
- 3) Clutch control; if the transmission is not automatic as in the case of vehicle with steering wheel.

c) Foot/Hand Operated Controls

The following controls may be operated by the hand or foot:

- 1) Parking brake;
- 2) High beam/low beam control;
- 3) Accelerator control, in the case of vehicles with handlebar; and
- 4) Clutch control, in the case of vehicles with handlebar, if the transmission is not automatic.

5 OPTIONAL CONTROLS

For the other equipments provided, such as decompression, fog lights, etc. suitable control shall be provided.

6 DISPLAYS

6.1 The following displays are mandatory fitment.

- a) Speedometer;
- b) Odometer;

- c) Temperature of water in case engine is water cooled; and
- d) Turn signal pilot lamps (not mandatory, if the driver, in his normal seating position is able to judge the proper functioning of the turn signal lamps).

7 GENERAL REQUIREMENTS, SYMBOLS AND TELLTALE

7.1 Designation and illustration of symbols are listed in Table 1. If an equipments listed in the table is provided, these shall be identified by word(s) shown in col 3 or by symbols shown in col 4.

7.2 The telltale symbols and informational read out displays are considered visible, when actuated.

7.3 Symbols shall be placed on or adjacent to the controls or telltales to be identified. Where this is not possible, the symbols and the control or telltale shall be joined to the extent possible by a continous line as

short as possible.

7.4 If, in a symbol, a vehicle or parts of vehicle are shown in a side view, the direction of driving shall be assumed to be from right to left.

7.5 Focussed light shall be represented by parallel rays and diffused light by divergent rays.

7.6 When the following colours are used on the optional telltales, they shall have the meaning as indicated below :

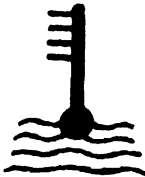
- Red : Danger
- Yellow (Amber) : Caution
- Green : Safe
- Blue : Head light upper beam telltale

7.7 Where red, or blue colours are specified, red-orange or blue-green colours respectively are also permitted.

Table 1 Control and Display Indentification Requirements
(Clause 7.1)

Sl No.	Equipment	Control/Display by Words	Identification by Symbol	Colour or Telltale
(1)	(2)	(3)	(4)	(5)
1.	Head lamp upper/ lower beam control	Hi, Lo		Blue
2.	Turn signal	Turn L R		Green or Amber
3.	Choke	Choke		
4.	Fuel	Fuel		Amber or Yellow

Table 1 (Concluded)

Sl No.	Equipment	Control/Display by Words	Identification by Symbol	Colour or Telltale
(1)	(2)	(3)	(4)	(5)
5.	Engine coolant temperature	Temp		Red
6.	Battery Charging	Volts, Charge or Amp		Red
7.	Engine oil	Oil		Red
8.	Front fog-light	—		Green
9.	Rear fog-light	—		Amber or Yellow
10.	Fuel tank shut off valve	Off On Res		
11.	Ignition cut off	Ignition or Ign		
12.	Neutral indicator	Neutral		Green
13.	High beam indicator			Blue
14.	Odometer	Km		
15.	Horn	Horn		
16.	Speedometer	km/h or kmph		

NOTES

- 1 For the speedometer km/h increased in the clockwise direction. Major graduations and numerals at intervals of 20 km/h and minor graduations at intervals of 10 km/h.
- 2 If the speedometer and odometer are combined, either 'km/h' or 'kmph' or 'km' may be affixed.

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

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